

Plant Disease Notes

Tobacco Mosaic Virus

Tobacco mosaic virus (TMV), also known as tomato mosaic virus, can be a problem when resistant varieties are not used and frequent handling of plants is involved. Many strains of the virus exist affecting many unrelated plants in different families.

Symptoms. The symptoms of TMV first appear about 10 days after plants become infected. Symptoms appear as light and dark green mottled areas on leaves. Leaves on infected plants are often small, curled, and puckered. Plants infected early in their development are stunted and have a yellowish cast. Symptoms may vary depending on virus strain, time of infection, variety, and environmental conditions. In hot weather, symptoms may not be as obvious although plants remain infected.

Certain strains of TMV can cause dark, longitudinal streaks of varying lengths on stems. Affected stems are brittle and appear brown internally.

TMV can reduce size and number of fruit produced. The earlier a plant becomes infected, the greater the loss. Fruit usually do not show any malformation. Occasionally, mottling, bronzing, and internal browning of fruit occur. Internal

browning is evident on mature but unripened fruit.

Persistence and Transmission. TMV is a very stable, persistent virus that is readily spread by human activities. TMV can be a severe problem during production of tomato transplants in greenhouses. Handling plants during standard production practices such as transplanting, tying, and pruning can effectively spread the virus. Infected leaf and root debris and seed are common sources of TMV. The virus can survive in plant debris for varying periods, depending on soil moisture. It can survive up to 2 years under dry conditions.

Control. TMV control should begin before planting. It includes the following strategies.

- Eradicate perennial and biennial weeds from the garden, field, greenhouse, and surrounding areas.
- Continue weed control during and after the growing season.
- Use TMV-resistant tomato varieties when feasible.
- Make sure transplants are healthy and certified as disease free.
- Discourage use of tobacco by workers, and encourage the practice of washing hands with soap and water before and after handling plants.

- Do not transplant seedlings into fields where root debris is present.
- Destroy infected plants found at transplanting and during the season.
- Use a 2-year rotation between susceptible crops.
- Contact your county Extension agent for more information concerning TMV control for greenhouse tomato production.



Your Experts for Life

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For more information, call your county Extension office. Look in your telephone directory under your county's name to find the number.

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